

PROGNOSTIC DISCUSSION FOR LONG-LEAD OUTLOOKS
CLIMATE PREDICTION CENTER NCEP
NATIONAL WEATHER SERVICE WASHINGTON DC
3 PM EST THURSDAY NOVEMBER 19 1998

PROGNOSTIC DISCUSSION OF SST FORECASTS

THE OFFICIAL SST FORECAST FOR THE EAST-CENTRAL EQUATORIAL PACIFIC (120-170W LONGITUDE AND 5S TO 5N - ALSO CALLED NINO 3.4) IS FOR NEGATIVE ANOMALIES OF ABOUT 1.5 STANDARD DEVIATION TO CONTINUE THROUGH THE REMAINDER OF THE YEAR AND INTO SPRING 1999. THE CURRENT VALUE OF NINO 3.4 - AUGUST SEPTEMBER OCTOBER AVERAGE - IS MINUS 1.3 CELSIUS OR NEARLY 2 STANDARD DEVIATIONS BELOW NORMAL. THE OFFICIAL FORECAST THUS IS FOR PERSISTENCE AT BEST - NO FURTHER STRENGTHENING IS ANTICIPATED .

MORE GENERALLY THE CURRENT SSTs ALONG THE EQUATOR ARE MORE THAN 0.5 DEGREES C BELOW NORMAL FROM ABOUT 160E ALL THE WAY TO THE SOUTH AMERICAN COAST - WITH SST ANOMALIES IN EXCESS OF MINUS 2 DEGREES IN SMALLER POCKETS BETWEEN 170W AND 120W. SUB-SURFACE NEGATIVE TEMPERATURE ANOMALIES ARE MODERATELY STRONG IN THE EASTERN AND CENTRAL TROPICAL PACIFIC. THIS - COMBINED WITH THE SOMEWHAT ABOVE NORMAL TRADE WINDS - SUGGESTS CONTINUATION OF THE COLD CONDITIONS AT THE SURFACE.

ALL MAJOR ENSO PREDICTION MODELS - BOTH THOSE RUN HERE AT NCEP AND THOSE FROM OTHER MODELING GROUPS CONTINUE TO INDICATE THAT MODERATE TO STRONG LA NINA CONDITIONS WILL VERY LIKELY REMAIN IN PLACE THROUGH THE REMAINDER OF 1998 AND INTO AT LEAST THE FIRST SEVERAL MONTHS OF 1999. THE NCEP COUPLED MODEL FORECASTS NEGATIVE ANOMALIES FROM DJF 98/99 THROUGH MAM99 - ALTHOUGH ITS FORECAST IS THE MOST CONSERVATIVE OF THE THREE METHODS USED AT CPC- WITH MAXIMUM NEGATIVE ANOMALIES OF ONLY ABOUT -0.95 DEGREES C IN DJF. THE TWO STATISTICAL MODELS HAVE MORE AMPLITUDE - THE CCA PREDICTING MAXIMUM ANOMALIES IN DJF OF -1.3 C - WHICH IS HOWEVER LESS THAN WAS FORECAST BY CCA A MONTH AGO - AND THE CONSTRUCTED ANALOG BEING THE BOLDEST WITH -1.7 C IN DJF.

THE CONSOLIDATION FORECAST BASED ON PAST PERFORMANCE OF THE TWO STATISTICAL TOOLS AND THE COUPLED MODEL SUGGESTS A SOLUTION ABOUT MIDWAY BETWEEN THE STATISTICAL TOOLS AND THE DYNAMICAL MODEL AT -1.1 C IN DECEMBER - WEAKENING TO LESS THAN -1.0 C IN MARCH. FOR THE REST OF 1999 THE FORECAST IS FOR SMALL NEGATIVE ANOMALIES - HOWEVER WITH LARGE ERROR BARS FROM MAY ONWARD.

OVERALL CONFIDENCE IN THE SST FORECAST IS EXTREMELY HIGH THRU MARCH. COLD ENSO CONDITIONS ARE THUS ASSUMED IN FORMULATING THE FORECASTS OF U.S. TEMP AND PRECIP FROM DJF THROUGH MAM. THE LA NINA COMPOSITES ARE NO LONGER CONSIDERED IN THE FORECASTS BEGINNING IN AMJ. NOT ONLY IS THE STATUS OF ENSO UNCERTAIN AT THAT TIME BUT THE PHYSICAL BASIS FOR IMPACTS OF THE TROPICS ON THE US IS LESS CLEAR IN SUMMER THAN IN WINTER.

PROGNOSTIC DISCUSSION OF OUTLOOKS - DJF 98-99 TO DJF 99-2000
(NOTE WE CRACKED THE Y2K BARRIER - CPC IS ALWAYS FIRST)

THE SERIES OF LONG-LEAD FORECASTS FROM DJF 98/99 THROUGH MAM 99 REFLECTS TO LARGE MEASURE THE HISTORICAL DISTRIBUTIONS OF SEASONAL MEAN TEMPERATURES AND PRECIPITATION ASSOCIATED WITH PREVIOUS LA NINAS. SINCE MID-SEPTEMBER 98 A RESAMPLING TECHNIQUE WAS USED TO MORE ACCURATELY ASSESS THE SIGNIFICANCE OF THE LA NINA COMPOSITE PRECIPITATION SIGNAL. ALSO - THE LA NINA COMPOSITES FOR TEMPERATURE - NOT RESAMPLPED - BEGAN INCLUDING THE INTERDECADAL TEMPERATURE TREND. THESE NEW COMPOSITES HAVE REPLACED EARLIER ESTIMATES THAT WERE ON THE CPC HOMEPAGE UNTIL

MID-OCTOBER 98.

THE FORECASTS FOR DJF THRU MAM ARE DERIVED LARGELY FROM THE LA NINA COMPOSITES - BUT ALSO FROM OTHER TOOLS. THE CCA STRONGLY INDICATED LA NINA CLIMATE PATTERNS ACROSS THE U.S. BUT DIFFERED FROM THE LA NINA COMPOSITES IN DETAIL BECAUSE IT HAS A DIFFERENT TAKE AT INTERANNUAL VARIABILITY - USES MORE MODES - AND USES ALL YEARS TO DEVELOP RELATIONSHIPS. THE OCN WAS USED UNLESS THE OBSERVED TREND TOWARD WARM EL NINO-LIKE CONDITIONS OVER THE LAST DECADE WAS TOO PROMINENT TO BE BELIEVED IN THIS - A LA NINA - SEASON.

AS TO THE OTHER TOOLS NOTE THE FOLLOWING: (1) THE SOIL MOISTURE TOOL WAS NOT CONSIDERED FOR THIS SET OF FORECASTS BECAUSE ITS SKILL IS SEASONAL AND IS RELIABLY GOOD IN SUMMER ONLY. (2) THE MULTIPLE LINEAR REGRESSION WAS USED SPARINGLY. (3) THE COUPLED MODEL FORECASTS FOR US TEMP AND PRECIP PLAYED A BIGGER ROLE THAN A MONTH AGO BECAUSE WHILE WE BELIEVE THAT ITS FORCING IN TERMS OF SST ANOMALY IS NOT AS STRONG AS WE THINK IT SHOULD HAVE BEEN ITS ITS MIDLATITUDE AND U.S. PATTERNS WERE STRONGER AND BETTER DEFINED THAN IN THE RUNS MADE A MONTH AGO. THE ECHAM-IRI MODEL WAS NOT AVAILABLE THIS TIME.

CHANGES FROM THE SET OF US FORECASTS PRODUCED A MONTH AGO ARE MINIMAL BECAUSE THE CONSIDERATIONS HAVE CHANGED VERY LITTLE.

THE DJF TEMPERATURE FORECAST CALLS FOR ABOVE NORMAL TEMPERATURES IN MUCH OF THE SOUTH U.S. FROM SOUTHERN CALIFORNIA TO GEORGIA AND FLORIDA. IN THE SOUTHWEST THIS IS CONSISTENT WITH LA NINA AND THE CMP BUT ABOVE NORMAL TEMPERATURE IN THE SOUTHEAST IS FAVORED ALSO BY RECENT TRENDS. SUB-NORMAL TEMPERATURE IS INDICATED ONLY IN MINNESOTA AND NORTH DAKOTA - WE WEAKENED THE AREAL EXTENT BECAUSE CCA WAS WEAKER THAN A MONTH AGO. WE MENTION ALSO SPECIFICALLY A CL FORECAST FOR TEMPERATURES IN THE NORTHWEST. CLIMATOLOGICAL PROBABILITIES ARE RESORTED TO IN THE NORTHWEST TO RESOLVE A CONFLICT BETWEEN THE TREND (INDICATING POSITIVE ANOMALIES) AND LA NINA COMPOSITES (INDICATING EQUALLY STRONG NEGATIVE ANOMALIES). THE TREND ADJUSTED LA NINA COMPOSITES AND THE CCA (WHICH ALSO INCORPORATES TRENDS) AND OCN ALL AGREE THAT THE NORTHWEST WILL NOT BE COLDER THAN NORMAL.

THE DJF PRECIPITATION FORECAST CALLS FOR BELOW MEDIAN PRECIPITATION FROM THE SOUTHWEST EXTENDING ACROSS TEXAS TO THE GULF COAST AND THE SOUTHEASTERN U.S. THIS FORECAST IS SUPPORTED BY THE CMP IN THE SOUTHEAST AND THE CCA AND LA NINA COMPOSITES IN BOTH SE AND SW. ALL TOOLS SUGGEST ABOVE MEDIAN PRECIPITATION SOMEWHERE IN THE NORTHWEST AND NORTH CENTRAL REGIONS AND THE OFFICIAL FORECAST EXPRESSES A CONSOLIDATION OF TOOLS. OCN IS IGNORED FOR THIS LA NINA WINTER PRECIPITATION FORECAST BECAUSE IT SHOWS PRIMARILY INTERDECADEAL EL NINO LIKE BEHAVIOR.

AS IS THE CASE IN DJF FOR JFM THRU MAM ALL FORECASTS ARE GENERALLY FOR DRY AND WARM IN THE SOUTH - AND WET AND SOMEWHAT COLD IN THE NORTH. PROBABILITY ANOMALIES IN THE SOUTH ARE GENERALLY MUCH HIGHER THAN IN THE NORTH AND ALSO COVER LARGER AREAS. WET CONDITIONS CHARACTERIZE THE NORTHWEST FROM DJF THROUGH MAM. TEMPERATURES FOR THAT REGION ARE ASSIGNED CLIMATOLOGICAL PROBABILITIES - DUE TO THE CONFLICT NOTED ABOVE. BELOW NORMAL TEMPERATURE AND ABOVE MEDIAN PRECIPITATION IS EXPECTED IN THE GREAT LAKES REGION. THE NORTHEAST IS MORE UNCERTAIN - WITH ONLY NEGATIVE TEMPERATURE ANOMALIES FORECAST FOR THE LATER PORTION OF THE WINTER AND POSITIVE PRECIPITATION ANOMALIES IN DJF AND JFM IN THE EASTERN GREAT LAKES REGION. BY IMPLICATION - A SNOWIER WINTER SEASON THAN THAT EXPERIENCED LAST WINTER IS LIKELY IN MICHIGAN - UPPER NEW YORK STATE AND

NORTHWESTERN NEW ENGLAND.

LA NINA WINTERS ARE OFTEN CHARACTERIZED BY STRONG INTRA SEASONAL FLUCTUATIONS DUE TO BLOCKING EPISODES ALTERNATING WITH ENHANCED ZONAL FLOW - WHILE EL NINO WINTER FLOWS ARE STABLE AND HAVE VERY LITTLE BLOCKING UPSTREAM IN THE PACIFIC. THEREFORE WEATHER - AND THE ACCOMPANYING TEMPERATURE AND PRECIPITATION - IS MUCH MORE VARIABLE DURING LA NINA WINTERS THAN IT IS DURING EL NINO. THUS - WE ANTICIPATE THAT PERIODS OF STRIKINGLY COLD WINTER WEATHER AND MUCH Milder WEATHER MAY OCCUR THIS WINTER. THE AVERAGES OVER 3 MONTH PERIODS - HOWEVER - SHOULD END UP TILTED TOWARD WHAT IS DESCRIBED ABOVE.

FORECASTS FOR PERIODS BEYOND AMJ 1999 PREDOMINATELY REFLECT TEMPERATURE AND PRECIPITATION TRENDS AS INDICATED BY OCN.

ALASKAN FORECASTS BEGIN WITH BELOW NORMAL TEMPERATURES IN DJF AND THEN TURN TO ABOVE NORMAL ALONG THE SOUTHERN COAST AND PANHANDLE FROM FMA THROUGH EARLY SUMMER. SUB-MEDIAN PRECIPITATION IS OFTEN PREDICTED FOR THE SOUTHERN COAST FROM DJF THROUGH EARLY SUMMER - WITH SOME EXCESS SNOW IN THE NORTH DURING THE LATER PORTION OF THE WINTER.

FOR A DESCRIPTION OF THE STANDARD FORECAST TOOLS - THEIR SKILL - AND THE FORECAST FORMAT PLEASE SEE OUR WEB PAGE AT:
[HTTP://NIC.FB4.NOAA.GOV:80/PRODUCTS/PREDICTIONS/
MULTI-SEASON/13_seasonal_outlooks/tools](http://nic.fb4.noaa.gov:80/products/predictions/multi-season/13_seasonal_outlooks/tools)

NOTE - THESE CLIMATE OUTLOOKS ARE INTENDED FOR USE PRIOR TO THE START OF THEIR VALID PERIODS. WITHIN ANY GIVEN VALID PERIOD OBSERVATIONS AND SHORT AND MEDIUM RANGE FORECASTS SHOULD BE CONSULTED. ALSO - THIS SET OF OUTLOOKS WILL BE SUPERSEDED BY THE ISSUANCE OF THE NEW SET NEXT MONTH ON THURSDAY DECEMBER 17 1998.

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